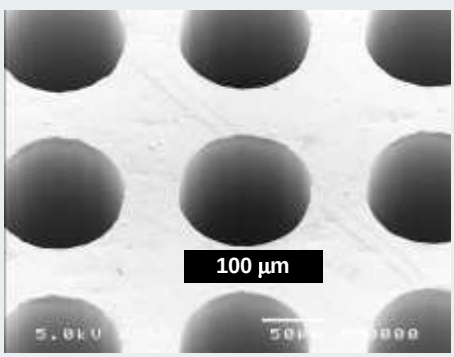
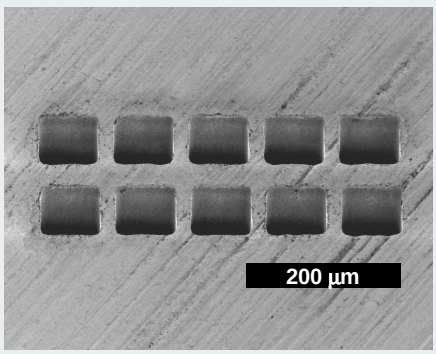
*Probe*Drill™ 355

Advanced Micro-Drilling System for Vertical Probe Cards

- Turn-key probe card drilling system
- Drills ceramics, polymers and other materials
- Hole position accuracy better than 2 microns
- Hole diameters to below 50 microns
- Simple to install and run





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Laser source

Laser: 355 nm Diode-pumped Solid State Laser

Positioning System

X and Y axes use high performance direct drive linear motor with linear encoders for high accuracy.
Z-axis uses a pre-loaded precision ground ball screw.

Axis	X	Y	Z
Travel (mm)	200	200	100
Resolution (µm)	0.1	0.1	1
Repeatability (µm)	± 0.5	± 0.5	± 0.5
Linear Accuracy (µm)	± 1.0	± 1.0	± 1.0

Laser Trepanning System

Diameter range : min - max with 0.05% resolution
Min Diameter : 5 µm
Max Diameter Options : 100, 200, 300, 400 µm
Rotation Speed : 0 – 40 revs per second
Diameter resolution : 0.05% of Max Diameter

Laser Power Control

Fully integrated with trepanning and motion system to enable on-the-fly adjustment.

Control Software

Advanced PC-based controller with 32 axis capability
Single screen control of process
RS274 G-code programming language

Vision System

High magnification on-axis vision with 1mm field of view and software controlled cross-hair

Structure

Class 1 laser interlocked enclosure
Granite base & gantry
Vibration isolation

Dimensions and Mass

Dimensions: 2880 x 1560 x 2100 mm(W XDX H)
Mass of full system: 1950 kg

Services & Environment

Electrical: Single phase 20A
Humidity: 10 - 80% non-condensing

Options

Long travel air-bearing XY movement

Axis	X	Y
Travel (mm)	400	400
Resolution (µm)	0.004	0.004
Repeatability (µm)	± 0.20	± 0.20
Linear Accuracy (µm)	± 0.75	± 0.75

2-D Calibration

Provides true-position accuracy ±1.5 µm radial over 300 x 300 mm with 400mm air-bearing system.

Taper control system

- Controls taper,
- Speeds up drilling of parallel sided holes
- Enables negative tapers to be achieved

Other options

- 2D and 2.5D CADCAM
- Galvanometer scanner
- Auto-focus
- Auto-alignment
- Beam Profiler
- High resolution off-axis camera
- Height/depth sensor options
- Vacuum & mechanical chuck options

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